

AMENDMENTS TO THE CLAIMS

Please replace the pending claims with the following claim listing:

1. **(Currently Amended)** A semiconductor optical device comprising
 a mesa-stripe stacked body including at least a p-type cladding layer, an active
layer and an n-type cladding layer formed on a p-type InP substrate doped with Zn,
 a current-blocking layer buried in both sides of said stacked body, and
 an n-type over-cladding layer and an n-type contact layer disposed on said
current-blocking layer and said stacked body,
 wherein said current-blocking layer is a single layer and a high-resistive layer
made of an InP crystal doped with Ru, the upper surface of said current-blocking layer
having a substantially level region disposed below the topmost height of the upper
surface and above the height of the topmost layer of said stacked body, and a layer
thickness of said current-blocking layer is between 3 and 5 μm ; and
 said n-type over-cladding layer is made of an InP crystal doped with a group VI
element having a property for flattening a concavo-convex shape of upper surfaces of
said current-blocking layer and said stacked body.
2. **(Canceled)**
3. **(Previously Presented)** A semiconductor optical device according to claim 1,
wherein the n-type dopant is selenium.
4. **(Previously Presented)** A semiconductor optical device according to claim 3,
wherein doping concentration of the selenium is equal to or higher than $5 \times 10^{18} \text{ cm}^{-3}$.
- 5 – 15. **(Canceled)**

16. **(Currently Amended)** A method of fabricating a semiconductor optical device comprising the steps of:

forming a stacked body including at least a p-type cladding layer, an active layer and an n-type cladding layer on a p-type InP substrate doped with Zn;

processing said stacked body into a mesa stripe-like shape;

burying a current-blocking layer which is a single layer and made of an InP crystal doped with Ru in both sides of said mesa stripe-shaped stacked body, wherein said current-blocking layer has an upper surface with a substantially level region disposed below the topmost height of the upper surface and above the height of the topmost layer of said stacked body, and a layer thickness of said current-blocking layer is between 3 and 5 μm ;

forming an over-cladding layer made of an InP crystal doped with a group VI element to flatten a concavo-convex shape of upper surfaces of said current-blocking layer and said stacked body; and

forming an n-type contact layer on said n-type over-cladding layer.

17. **(Previously Presented)** A method according to claim 16, wherein the n-type dopant is selenium.

18. **(Previously Presented)** A semiconductor optical device according to claim 1, wherein the current-blocking layer is disposed directly on the p-type InP substrate so as to contact the p-type InP substrate.

19. **(Previously Presented)** A semiconductor optical device according to claim 18, wherein the n-type over-cladding layer is disposed directly on the current-blocking layer so as to contact the current-blocking layer.

20. **(Previously Presented)** A method according to claim 16, wherein burying a current-blocking layer in both sides of said mesa stripe-shaped stacked body comprises growing the current-blocking layer directly on the p-type InP substrate.

21. **(Previously Presented)** A method according to claim 20, wherein forming an over-cladding layer comprises growing the over-cladding layer directly on the current-blocking layer.